Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.-22. (Canceled)

23. (New) A method of inspecting an artefact using a coordinate measuring apparatus in which an artefact-sensing probe is moved into a position-sensing relationship with each artefact and a position reading taken, the method comprising the following steps in any suitable order:

measuring a surface of an artefact with an artefact-sensing probe in contact mode;

measuring said surface of the artefact with an artefact-sensing probe in non-contact mode;

generating an error map or function corresponding to the difference between the measurement taken with the artefact-sensing probe in contact mode and the artefact-sensing probe in non-contact mode; and

using the error map or function to correct subsequent measurements with the artefact-sensing probe in non-contact mode.

24. (New) A method according to claim 23 wherein the step of measuring said surface of the artefact with an artefact-sensing probe in contact mode comprises scanning said artefact.

25. (New) A method according to claim 23 wherein said surface of the artefact is measured with the artefact-sensing probe in non-contact mode with the artefact-sensing probe at a nominal offset from said surface of the artefact.

26. (New) A method according to claim 23 wherein the error map or function is used to calibrate the artefact sensing probe in non-contact mode to thereby produce a radial correction for a nominal distance and direction of the artefact sensing probe relative to said surface of the artefact surface.

27. (New) A method according to claim 23, comprising the additional steps of:

measuring subsequent artefacts with the artefact measuring probe in non-contact mode; and

correcting the measurements of subsequent artefacts using the error map or function.

28. (New) A method according to claim 23 wherein the artefact-sensing probe in contact mode and the artefact-sensing probe in non-contact mode comprise a single artefact-measuring probe with both contact and non-contact modes.

29. (New) A method according to claim 23 wherein the artefact-sensing probe in contact mode and the artefact-sensing probe in non-contact mode comprise separate probes.

30. (New) A method according to claim 23 wherein said surface of the artefact is measured with the artefact-sensing mode in contact mode at a slow speed and with the artefact-sensing mode in non-contact mode at the desired speed of measurement of subsequent artefacts.

31. (New) A method according to claim 30 wherein the speed of measurement of subsequent artefacts is a fast speed.

32. (New) A method according to claim 23 wherein said surface of the artefact is measured with the artefact-sensing probe in contact mode using a high accuracy reference co-ordinate measuring apparatus and said surface of the artefact is measured with the artefact-sensing probe in non-contact mode using a repeatable co-ordinate measuring apparatus.

33. (New) A method according to claim 23 wherein the measurements of said surface of the artefact gained from measurement with the artefact-sensing probe in contact mode are used to calculate a path for the artefact-sensing probe in non-contact mode to follow.

34. (New) A method according to claim 23 wherein the path for the artefact sensing probe in non-contact mode is ascertained using predefined features of the artefact.

35. (New) A method according to claim 23 wherein the step of measuring a surface of said artefact with the artefact sensing probe in non-contact mode comprises scanning said surface of the artefact.

36. (New) Apparatus for inspecting an artefact using a coordinate measuring apparatus and at least one artefact sensing probe, the apparatus comprising a controller adapted to perform the following steps in any suitable order;

(a) measuring a surface of an artefact with an artefact-sensing probe in contact mode;

(b) measuring said surface of an artefact with an artefact-sensing probe in non-contact mode;

(c) generating an error map or function corresponding to the difference between the measurements taken with the artefact measuring probe in contact mode and the artefact measuring probe in non-contact mode;

(d) measuring subsequent artefacts with the artefact measuring probe in non-contact mode; and

(e) correcting the measurement of subsequent artefact using the error map or function.

37. (New) Apparatus for inspecting an artefact using a coordinate measuring apparatus and at least one artefact sensing probe, the apparatus comprising a controller adapted to perform the following steps in any suitable order:

measuring the surface of an artefact with an artefact-sensing probe in contact mode;

measuring said surface of the artefact with an artefact-sensing probe in non-contact mode;

generating an error map or function corresponding to the difference between the measurement taken with the artefact-sensing probe in contact mode and the artefact-sensing probe in non-contact mode; and

using the error map or function to correct subsequent measurements with the artefact-sensing probe in non-contact mode.

38. (New) Apparatus according to claim 37 wherein the step of measuring said artefact with an artefact-sensing probe in contact mode comprises scanning said artefact.

39. (New) Apparatus according to claim 37 wherein said surface of the artefact is measured with the artefact-sensing probe in non-contact mode with the artefact-sensing probe at a nominal offset from said surface of the artefact.

40. (New) Apparatus according to claim 37 wherein the error map or function is used to calibrate the artefact sensing probe in non-contact mode to thereby produce a radial correction for a nominal distance and direction of the artefact sensing probe relative to the artefact surface.

41. (New) Apparatus according to claim 37, comprising the additional steps of:

measuring subsequent artefacts with the artefact measuring probe in non-contact mode; and

correcting the measurements of subsequent artefacts using the error map or function.

42. (New) Apparatus according to claim 37 wherein said surface of the artefact is measured with the artefact-sensing mode in contact mode at a slow speed and with the artefact-sensing mode in non-contact mode at the speed of measurement of subsequent artefacts.

43. (New) Apparatus according to claim 42 wherein the speed of measurement of subsequent artefacts is a fast speed.

44. (New) Apparatus according to claim 37 wherein the measurements of the surface of the artefact gained from measurement with the artefact-sensing probe in contact mode are used to calculate a path for the artefact-sensing probe in non-contact mode to follow.

45. (New) Apparatus according to claim 37 wherein the path for the artefact sensing probe in non-contact mode is ascertained using predefined features of the artefact.

46. (New) Apparatus according to claim 37 wherein the step of measuring said artefact sensing probe in non-contact mode comprises scanning said surface of the artefact.